

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

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PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

25 JUN 2004

Applicant's or agent's file reference

29920-72224

IMPORTANT NOTIFICATION

International application No.

PCT/US03/00072

International filing date (day/month/year)

02 January 2003 (02.01.2003)

Priority date (day/month/year)

03 January 2002 (03.01.2002)

Applicant

ADVANCED RESEARCH AND TECHNOLOGY INSTITUTE, INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

Mail Stop PCT, Attn: IPEA/US
Commissioner for Patents
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James Matthews

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 29920-72224	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/00072	International filing date (day/month/year) 02 January 2003 (02.01.2003)	Priority date (day/month/year) 03 January 2002 (03.01.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): H01J 49/16 and US Cl.: 250/281,282,286,287,288,291,292,294		
Applicant ADVANCED RESEARCH AND TECHNOLOGY INSTITUTE, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of — sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 01 August 2003 (01.08.2003)	Date of completion of this report 02 February 2004 (02.02.2004)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer John R. Lee <i>James Matthews</i> Telephone No. 703-308-0956

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US03/00072

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed.
- ☒ the description:
pages 1-21 _____ as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the claims:
pages 22-25 _____, as originally filed
pages NONE _____, as amended (together with any statement) under Article 19
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☒ the drawings:
pages 1-9 _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.
- ☐ the sequence listing part of the description:
pages NONE _____, as originally filed
pages NONE _____, filed with the demand
pages NONE _____, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE
- ☐ the claims, Nos. NONE
- ☐ the drawings, sheets/fig NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/00**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>1-29</u>	YES
	Claims <u>30-37</u>	NO
Inventive Step (IS)	Claims <u>1-29</u>	YES
	Claims <u>30-37</u>	NO
Industrial Applicability (IA)	Claims <u>1-37</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 30-37 lack novelty under PCT Article 33(2) as being anticipated by Syage et al. Syage et al. teaches a method and apparatus for analysis of an analyte in a time of flight mass spectrometer where two separate ion sources produce two separate streams of ions, both of which are coupled in the time of flight mass spectrometer (Fig. 4).

Applicant's arguments regarding claims 1, 2, and 16 are found to be persuasive.

Applicants arguments regarding the outstanding objection to claim 30 are not persuasive. Applicant has request that the examiner specifically point out the purported deficiencies in Syage et al. The citation of Fig. 4 of Syage et al. and the elements therein, namely the two required ion sources (308 and 310) and their respective coupling to mass spectrometer 306 is sufficient to illustrate that Syage et al. teaches the subject matter of claim 30. Claims 31-37 depend from claim 30 and therefore lack novelty.

Claims 30-37 lack an inventive step under PCT Article 33(3) as being obvious over Syage et al. Claims 31-37 require various ions source types as the ion sources of claim 30. The selection of ion source type would be a matter of preference to one of ordinary skill in the art as Syage et al. makes reference to various types of ion source such as glow discharge type ion sources and photoionization sources. It is therefore apparent that the selection of the type of ion source is at the discretion of the practitioner and not limited by the teaching of Syage et al.

Claims 1-29 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest a mass spectrometer which couples two ion streams from two ion sources to a spectrometer detection system simultaneously as recited in claims 1-29.

Claims 1-37 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.